In the Claims:

Please amend the claims as follows:

1. (Previously presented) In a data acquisition unit, a self-tuning filter, comprising:

a digital clocking signal;

an input of the data acquisition unit coupled to said digital clocking signal, whereby the input reads a value incident on the input when the digital clocking signal changes to a predetermined state; and

a clock-tunable filter coupled to said digital clocking signal, whereby the frequency of the clock-tunable filter is adjusted in relation to a sampling frequency at which the digital clocking signal operates.

2. (Original) The self-tuning filter of claim 1, wherein the clock-tunable filter is a low-pass filter.

3. (Currently Amended) The self-tuning filter of claim 1, further comprising a frequency multiplier coupled to said digital clocking signal and said clock-tunable filter, whereby the frequency of the clock-tunable filter is a multiple of the sampling frequency.

4. (Original) The self-tuning filter of claim 3, wherein the frequency multiplier is a phase-lock loop.

5. (Previously presented) The self-tuning filter of claim 1, wherein the input is an input of the data acquisition unit.

6. (Original) The self-tuning filter of claim 1, wherein the sampling frequency at which the digital clocking signal operates is equal to the frequency at which the digital clocking signal changes to the predetermined state.

7. (Original) The self-tuning filter of claim 1, wherein the value incident on the input is a signal originating at a sensor.

8. (Original) The self-tuning filter of claim 7, wherein the sensor is a pressure sensor.

9. (Original) The self-tuning filter of claim 1, wherein the sampling frequency varies.

10. (Original) The self-tuning filter of claim 9, wherein the sampling frequency varies as a function of a degree of rotation of a shaft.

11. (Previously Presented) In a data acquisition unit, a self-tuning filter, comprising:

a digital clocking signal;

an input coupled to said digital clocking signal, whereby the input reads a value incident on the input when the digital clocking signal changes to a predetermined state and the digital clocking signal changes to the predetermined state at a varying rate;

a phase-lock loop coupled to said digital clocking signal; and

a clock-tunable filter coupled to said phase-lock loop, whereby the frequency of the clock-tunable filter is a multiple of the sampling frequency at which the digital clocking signal changes to the predetermined state.

12. (Previously presented) A method of controlling the frequency of a clock-tunable filter, comprising:

sensing a frequency at which a digital clocking signal changes state, whereby said digital clocking signal causes an input of a data acquisition unit to read a value incident on the input when the digital clocking signal changes to a predetermined state; and

adjusting the frequency of the clock-tunable filter in relationship to the frequency at which the digital clocking signal changes state.

13. (Original) The method of claim 12, further comprising:

multiplying the frequency of the digital clocking signal to acquire a desired filter frequency; and

wherein said adjusting includes adjusting the frequency of the clock-tunable filter to equal the desired filter frequency.

14. (Original) The method of claim 12, wherein the digital clocking signal changes state at a varying rate.

15. (Currently amended) A self-tuning filter, having a first input at which is incident a varying digital clocking signal, a second input at which is incident an input signal corresponding to a sensor, and an output at which is incident a filtered signal that is consistent with the input signal received a constant number of samples previously ~~in filtered form~~.

16. (Previously presented) The self-tuning filter of claim 15, wherein the frequency of the self-tuning filter is adjusted continuously in relation to a frequency of the digital clocking signal.

17. (Currently amended) The self-tuning filter of claim 15, ~~further comprising~~ wherein the self-tuning filter is coupled to a data acquisition device, the data acquisition device having a clocking input at which is incident the varying digital clocking signal and a sensor input coupled to the output of the self-tuning filter, whereby the filtered signal is read by the data acquisition device at a frequency at which the varying digital clocking signal is received.

18. (Previously presented) The self-tuning filter of claim 15, wherein the number of samples is a fractional number of samples.

19. (Currently amended) The self-tuning filter of claim 15, wherein ~~the~~ a ratio of a ~~sampling~~ frequency at which the input signal is sampled to a ~~filter~~ frequency of the filter is constant.

20. (Currently amended) The self-tuning filter of claim 15, wherein the self-tuning filter acts as a low-pass filter on the input signal.

Please add the following claims:

21. A data acquisition unit, comprising:

an input to be coupled to a sensed signal, said input triggered to sample the sensed signal when a digital clocking signal changes to a predetermined state; and

a clock-tunable filter coupled to said digital clocking signal and said input, whereby the frequency of the clock-tunable filter is maintained at a ratio of the frequency at which the digital clocking signal changes state.

22. The data acquisition unit of claim 21, wherein the clock-tunable filter is a low-pass filter.

23. The data acquisition unit of claim 21, further comprising a frequency multiplier coupled to said digital clocking signal and said clock tunable filter, whereby the frequency of the clock tunable filter is a multiple of the sampling frequency.

24. The data acquisition unit of claim 23, wherein the frequency multiplier is a phase-lock loop.

25. The data acquisition unit of claim 21, wherein the sampling frequency at which the digital clocking signal operates is equal to the frequency at which the digital clocking signal changes to the predetermined state.

26. The data acquisition unit of claim 21, wherein the value incident on the input is a signal originating at a sensor.

27. The data acquisition unit of claim 26, wherein the sensor provides an analog signal.

28. The data acquisition unit of claim 21, wherein the sampling frequency varies.

29. The data acquisition unit of claim 28, wherein the sampling frequency varies as a function of a degree of rotation of a shaft.

30. The data acquisition unit of claim 21, wherein the input is coupled to the sensed signal through the clock-tunable filter.

31. A method of controlling the frequency of a clock-tunable filter, comprising:

sensing a frequency at which a digital clocking signal changes state, whereby said digital clocking signal causes an input of a data acquisition unit to read a value incident on the input when the digital clocking signal changes to a predetermined state; and

adjusting the frequency of the clock-tunable filter to maintain that frequency at a ratio of the frequency at which the digital clocking signal changes state.

32. The method of claim 31, further comprising:

multiplying the frequency of the digital clocking signal to acquire a desired filter frequency; and

wherein said adjusting includes adjusting the frequency of the clock-tunable filter to equal the desired filter frequency.

33. The method of claim 31, wherein the digital clocking signal changes state at a varying rate.

34. The method of claim 31, further comprising coupling a sensed signal to the filter and coupling the filter to a data acquisition unit such that the filter filters the sensed signal.